

DUTCH MARINE OBSERVATIONS

This reference manual was prepared for use with the observations from the Dutch Marine Deck Number 189. These observations are an extension of the Dutch Marine Observations of Deck 193 that covered the period 1854-1938. The period of record for this deck is 1/1939-12/1939 and 9/1945-6/1955; the missing period of 1/1940-8/1945 was during the German occupation of the Netherlands during World War II. Reproduction for our use was completed at the Netherlands Meteorological Institute at De Bilt on IBM electroplate #247-KNMZ DE BILT-A11651. Card volume for this deck is 262,945. For an inventory by 10° squares of QLL, see inventory page 6,7.

GENERAL PRACTICES

The data for these observations were obtained from selected, supplementary and auxiliary ships.

The selected ships were equipped with accurately calibrated instruments, and the observational personnel were given special observational literature. The degree of their additional meteorological training is unknown. The data from the selected ships were punched with an 08 code in columns 79 and 80. These observations are the most complete in that all elements were observed and punched.

The observations of the supplementary and auxiliary ships were coded and punched with codes 14, 15, 16, in columns 79 and 80.

UNUSUAL FEATURES

Unusual features of the deck include observations of specific humidity in 1/10 gram per kilogram, duration of fog, and duration of precipitation, in time units of a quarter of an hour per 6 hour synoptic period.

WEATHER ELEMENTS PUNCHED

For a rapid survey of data punched for the different codes 08, 14, 15, 16, in columns 79 and 80, see punching on card sample below.

The periods 1939 and 9/1945 thru 12/1954 were punched according to international 1949 code. The period 1-6/1955 was punched according to international 1955 code.

TABLE NO		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		TABLE NO																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
IDENTIFICATION										WIND		WEATHER		PRESSURE		TEMP		CLOUDS				TEMPERATURE DIFFERENCE		WAVES		PRESSURE		SPECIFIC HUMIDITY		DURATION OF FOG		DURATION OF PRECIP		REMARKS		SPECIAL PHENOMENA		2° 50'		5° 50'																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DATE		LOCATION		GREENWICH MEAN TIME		DIRECTION (00-360)		SPEED (KNOTS)		VISIBILITY		PRESENT		CORRECTED		DRY BULB 10°		WET BULB 10°		EIGHTS		LOW TYPE		MID TYPE		HI TYPE		SEA TEMP 10°		TEMPERATURE DIFFERENCE AIR-SEA 10°		DIRECTION		PERIOD		HEIGHTS		SHIP COURSE		SHIP SPEED		TENDENCY		CHANGE		SPECIFIC HUMIDITY		DURATION OF FOG		DURATION OF PRECIP		REMARKS		SPECIAL PHENOMENA		2° 50'		5° 50'																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
YEAR	MONTH	DAY	OCTANT	LATITUDE	LONGITUDE	GREENWICH MEAN TIME	DIRECTION (00-360)	SPEED (KNOTS)	VISIBILITY	PRESENT	CORRECTED	DRY BULB 10°	WET BULB 10°	EIGHTS	LOW TYPE	MID TYPE	HI TYPE	SEA TEMP 10°	TEMPERATURE DIFFERENCE AIR-SEA 10°	DIRECTION	PERIOD	HEIGHTS	SHIP COURSE	SHIP SPEED	TENDENCY	CHANGE	SPECIFIC HUMIDITY	DURATION OF FOG	DURATION OF PRECIP	REMARKS	SPECIAL PHENOMENA	2° 50'	5° 50'																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

Extension of Deck 193 - Dutch Marine Observations

Card Col. No.	Sym- bol	Item	Note	Card Code	Definition
1		Land or Watch No.		0,1-6	Code 14 in cols. 79, 80 punched watch no. in this column 1=0400, 2=0800, 3=1200, 4=1600, 5=2000, 6=2400 IST. (Other code, had 0 = Netherlands).
2-3		Year		35,45-55	Period of record 1/39-12/39, 9/45-6/55. War years missing.
4-5		Month		01-12	01 = January, 02 = February, 12 = December.
6-7		Day		01-31	Day of the month.
8	Q	Octant		0-3,5-8	(See table 1).
9-11	L _a	Latitude		000-899	00.0°-89.9° North or South Latitude to 1/10°. Col. 8 indicates North or South.
12-14	L _o	Longitude		900-999	00.0°-99.9° East or West Longitude to 1/10° omitting "1" if over 100°. Col. 8 indicates octant of globe.
15-16	GG	Greenwich Mean Time		00-23	GMT. (Not punched for code 14 in cols. 79 and 80. See col. 1). 00 = midnight of day beginning. Usually 6 hourly.
17	N	Total Cloud Amount		0-8	In 8ths, 9 = obscured. (See table 2). 12 punch = missing data.
18-19	dd	Wind Direction - 36 pts.		00-36	(See table 3). 55 = variable winds. 12 punch in col. 18 = missing data.
20-21	ff	Speed in Knots	A	00-99	Wind speed more than 99 knots has an "x" overpunch in col. 20.
22-23	vv	Visibility	A	90-99	(See table 4). (Not punched for code 15 in cols. 79 and 80).
24-25	ww	Present Weather	A, B	00-99	(See table 5).
26	W	Past Weather	A, B	0-9, x	(See table 6). ("x" = hail).
27-31	PPP	Pressure corrected to 1/10 millibar		07000-10999	Atmospheric pressure reduced to mean sea level in thousands, hundreds, tens, units and tenths millibars. (12 punch in col. 27, and blank in cols. 28-31 = missing data).
32-34	T	Air Temperature		000-450	In 1/10°C. Negative temperatures are indicated with an "x" overpunch in col. 32. (12 punch in col. 32 = missing data).
35-37	T _{wet}	Wet Bulb Temperature	A, B	000-450	In 1/10°C. Negative temperatures are indicated with an "x" overpunch in col. 35. "x" in col. 37 = wet bulb covered with ice.
38	N _h	Amt. Low Cls. 1/8s	A, B	0-8	9 = obscured. (See table 2).
39	CL	Type of Low Cloud	A, B	0-9	(See table 7). (When sky was obscured by precipitation or
40	h	Height of Low Cloud	A, B	0-9	(See table 8). obscuration to vision, it was indicated by a 12 punch).
41	C _M	Type Middle Cloud	A, B	0-9	(See table 9). (When sky was obscured by weather or by lower
42	C _H	Type of High Cloud	A, B	0-9	(See table 10). cloud layer, it was indicated by a 12 punch.
43-45	T _{sea}	Sea Surface Temperature		000-450	In 1/10°C. Negative temperatures are indicated with an "x" overpunch in col. 43. (12 punch in col. 43 = missing data).
46-48	T _{a-s}	Air-Sea Temperature Difference	A, B	000-450	In 1/10°C. Negative temperatures are indicated with an "x" overpunch in col. 46, when sea temperature was higher than the air temperature.
49-50	d _w	Wave Direction to 36 pts.	A, B	00-36	(See table 3). (Wave height greater than 14 feet indicated with an "x" overpunch in col. 50). (12 punch in col. 49 indicates all wave data missing cols. 49-52).
51	P _w	Period of Wave	A, B	2-9	x/0=0, x/1=1, 12 punch = calm or indeterminate. (See table 11).
52	H _w	Waves Mean Maximum Height	A, B	0-9	For waves 0 thru 14 feet ("x" overpunch in col. 50, and 0-9 in col. 52 = 15 feet thru 30-1/2 feet). (x/0 thru 9 in col. 52 and "x" overpunch in col. 50 = 31 feet thru 62 feet). (See table 12). 12 punch in col. 49 indicates all wave data missing.
53-56		Blank			
57	D _s	Ship's Course	A, B	0-8	(See table 13).
58	V _s	Ship's Speed	A, B	0-9	(See table 14).
59	a	Pressure Tendency	A, B	0-9	(See table 15). Note: Different code tables for period (1) 1939, 1945-1949. (2) 1955. (x/2 same as or greater than 3 hours ago; x/7 = less than 3 hours ago, these two codes were used on ships without barographs.
60-61	pp	Pressure Change in Last Three Hours	A, B	00-99	In 1/10 millibars. (When change exceeded 9.9 mbs., an "x" overpunch in col. 60 indicated values between 10.0 and 19.9 mbs.). (When a change exceeds 19.9 mbs., an "x" overpunch in cols. 60 and 61 indicated values 20.0-29.9 mbs.).
62-64	q	Specific Humidity	A, B	000-300	Specific humidity was machine computed and punched from the temperature data before arrival in U. S. in 1/10 grams per kilogram of humid air.
65-66		Fog Duration		00-24	Time units of a quarter of an hour per 6 hours. (No fog was punched 00). 12 punch in col. 65 = missing data.
67-68		Precipitation Duration		00-24	Time units of a quarter of an hour per 6 hours. (No precipitation was punched 00). 12 punch in col. 67 = missing data.
69	F	Wind Beaufort Force		0-9	x/0=10, x/1=11, x/2=12. Wind force Beaufort 0-12. (See table 16). 12 punch = missing data.
70-71	Sp	Special Phenomena		00-68	(See table 17). "x" overpunch in col. 70 indicates logbook contains additional particulars. "x" overpunch in col. 71 indicates logbook contains additional series of surface temperature observations. (12 punch col. 70 = missing data).
72-73	2°Sq	2 Degree Square	C	01-25	A Dutch variant of the Marsden Square system whereby the 1° squares of a 10° square are combined into groups of 4, so that 2° square "1" is composed of Marsden 1° squares 00, 01, 10, 11. (See table 18).
74	5°Sq	5 Degree Square	C	1-4	See remarks in cols. 72-73, these are 5° squares so that 5° square number "1" is composed of Marsden 1° squares 00-04, 10-14, 20-24, 30-44, 40-44. (See table 19).
75-78		Journal Number		0149-9999	
79-80		Code Number	A	08	Selected ships, all elements were reported by these ships.
			B	14	Supp. and auxiliary ships. (Cols. 15, 16 "Hours" Blank). (See col. 1).
			B	15	Supp. and auxiliary ships. (Cols. 22, 23 "Visibility" Blank).
			B	16	Supp. and auxiliary ships.

NOTES

- A - 12 punch in the first col. of the field and blank in the remaining cols. of the field indicates missing data for cards with code 08 in cols. 79 and 80.
- B - Cols. 24-26, 35-42, 46-64 were not punched for code 14, 15, 16, in cols. 79 and 80.
- C - Squares are always orientated so that the lowest number is nearest the intersection of Greenwich meridian and the equator.

Code 1

Symbol Q—Octant of the Globe

CODE FIGURES	LONGITUDE	CODE FIGURES	LONGITUDE
0	North latitude: 0° W. to 90° W.	5	South latitude: 0° W. to 90° W.
1	90° W. to 180° W.	6	90° W. to 180° W.
2	180° E. to 90° E.	7	180° E. to 90° E.
3	90° E. to 0° E.	8	90° E. to 0° E.

Symbol L₁L₂L₃—Latitude in Degrees and TenthsSymbol L₁L₂L₃—Longitude in Degrees and Tenths, Omitting Initial "1" if 100 or OverSymbol GG—Time of Observation, Whole Hours G. C. T.
(00 to 23)

Code 2

Symbol N—Total Cloud Amount

Symbol N_h—Amount of Cloud, the height of which is reported by "h"

CODE FIGURES	CLOUD AMOUNT (Eighths of sky covered)
0	None
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	Sky obscured

NOTES.—(1) "Fragments of clouds" are coded as 1.
(2) "Overcast but with openings" is coded as 7.

Code 3

Symbol dd—True Direction, in 10's of Degrees, From Which Wind is Blowing (00–36)

Symbol d₁d₂—Direction, in 10's of Degrees, From Which Waves Come

CODE FIGURES	DIRECTION	CODE FIGURES	DIRECTION
00	Calm	19	185° to 194°
01	5° to 14°	20	195° to 204°-SSW
02	15° to 24°-NNE	21	205° to 214°
03	25° to 34°	22	215° to 224°
04	35° to 44°	23	225° to 234°-SW
05	45° to 54°-NE	24	235° to 244°
06	55° to 64°	25	245° to 254°-WSW
07	65° to 74°-ENE	26	255° to 264°
08	75° to 84°	27	265° to 274°-W
09	85° to 94°-E	28	275° to 284°
10	95° to 104°	29	285° to 294°-WNW
11	105° to 114°-ESE	30	295° to 304°
12	115° to 124°	31	305° to 314°
13	125° to 134°	32	315° to 324°-NW
14	135° to 144°-SE	33	325° to 334°
15	145° to 154°	34	335° to 344°-NNW
16	155° to 164°-SSE	35	345° to 354°
17	165° to 174°	36	355° to 4°-N
18	175° to 184°-S		

Used only with d₁d₂.

49 Waves confused, direction indeterminate

99 Waves confused, direction indeterminate, higher than 14 feet

Code 4

Symbol VV—Visibility

CODE FIGURES	VISIBILITY RANGE
90	Less than 50 yards (50 m.)
91	50 yards (50 m.)
92	200 yards (200 m.)
93	¼ nautical mile (500 m.)
94	½ nautical mile (1,000 m.)
95	1 nautical mile (2,000 m.)
96	2 nautical miles (4,000 m.)
97	5 nautical miles (10 km.)
98	10 nautical miles (20 km.)
99	30 nautical miles or more (50 km.)

Code 5

Symbol ww—Present Weather

ww—00–49 No Precipitation at the Ship at the Time of Observation

00–19 No precipitation, fog, duststorm, sandstorm, or drifting snow at the ship at the time of observation or during the preceding hour, except for 09 to 12

00	Cloud development not observed	Characteristic change of the state of sky during the past hour
01	Clouds generally dissolving or becoming less developed	
02	State of sky on the whole unchanged	
03	Clouds generally forming or developing	
04	Visibility reduced by smoke, e. g., veiled or forest fires, industrial smoke or volcanic ashes	Within sight during the past hour or waterspout
05	Dry haze	
06	Widespread dust in suspension in the air, not raised by wind at or near the ship at the time of observation	
07	Dust or sand raised by wind at or near the ship at the time of observation, but no well developed dust devil(s), and no duststorm or sandstorm seen	
08	Well developed dust devil(s) seen at or near the ship within last hour, but no duststorm or sandstorm	
09	Duststorm or sandstorm within sight of ship or at ship during the last hour	
10	Light fog (visibility 1,000 m.; 1,100 yds. or more)	
11	Patches of	
12	More or less	
13	Lightning visible, no thunder heard	
14	Precipitation within sight, but not reaching sea at the ship	
15	Precipitation within sight, reaching sea, but distant (i. e., estimated to be more than 5 km. (3 miles) from ship)	
16	Precipitation within sight, reaching sea, near to but not at the ship	
17	Thunder heard, but no precipitation at the ship	
18	Squall(s)	
19	Funnel cloud(s) (tornado)	

20–29 Precipitation, fog or thunderstorm at the ship during the preceding hour but NOT at the time of observation

20	Drizzle (not freezing)	Not falling as showers
21	Rain (not freezing)	
22	Snow	
23	Rain and snow	
24	Freezing drizzle or freezing rain	
25	Shower(s) of rain	
26	Shower(s) of snow, or of rain and snow	
27	Shower(s) of hail or of hail and rain	
28	Fog	
29	Thunderstorm with or without precipitation	

30–39 Duststorm, sandstorm, or drifting snow

30	Slight or moderate duststorm or sandstorm, has decreased during last hour	
31	Slight or moderate duststorm or sandstorm, no appreciable change during last hour	
32	Slight or moderate duststorm or sandstorm, has increased during last hour	
33	Severe duststorm or sandstorm, has decreased during last hour	
34	Severe duststorm or sandstorm, no appreciable change during last hour	
35	Severe duststorm or sandstorm, has increased during last hour	
36	Slight or moderate drifting snow, generally low	
37	Heavy drifting snow, generally low	
38	Slight or moderate drifting snow, generally high	
39	Heavy drifting snow, generally high	

40–49 Fog at the time of observation

40	Fog at a distance at the time of observation, but not at the ship during the last hour, the fog extending to a level above that of the observer	
41	Fog in patches	
42	Fog, sky discernible	Has become thinner during the preceding hour
43	Fog, sky not discernible	
44	Fog, sky discernible	No appreciable change during the preceding hour
45	Fog, sky not discernible	
46	Fog, sky discernible	Has begun or has become thicker during the preceding hour
47	Fog, sky not discernible	
48	Fog, depositing rime, sky discernible	
49	Fog, depositing rime, sky not discernible	

50–99 Precipitation at the Ship at the Time of Observation

50–59	Drizzle at time of observation	
50	Drizzle, not freezing, intermittent	Slight at time of observation
51	Drizzle, not freezing, continuous	
52	Drizzle, not freezing, intermittent	Moderate at time of observation
53	Drizzle, not freezing, continuous	
54	Drizzle, not freezing, intermittent	Thick at time of observation
55	Drizzle, not freezing, continuous	
56	Drizzle, freezing, slight	
57	Drizzle, freezing, moderate or thick	
58	Drizzle and rain, slight	
59	Drizzle and rain, moderate or heavy	

60–69 Rain at time of observation

60	Rain, not freezing, intermittent	Slight at time of observation
61	Rain, not freezing, continuous	
62	Rain, not freezing, intermittent	Moderate at time of observation
63	Rain, not freezing, continuous	
64	Rain, not freezing, intermittent	Heavy at time of observation
65	Rain, not freezing, continuous	
66	Rain, freezing, slight	
67	Rain, freezing, moderate or heavy	
68	Rain or drizzle and snow, slight	
69	Rain or drizzle and snow, moderate or heavy	

70–79 Solid precipitation not in showers at time of observation

70	Intermittent fall of snow flakes	Slight at time of observation
71	Continuous fall of snow flakes	
72	Intermittent fall of snow flakes	Moderate at time of observation
73	Continuous fall of snow flakes	
74	Intermittent fall of snow flakes	Heavy at time of observation
75	Continuous fall of snow flakes	
76	Ice needles (with or without fog)	
77	Granular snow (with or without fog)	
78	Isolated starlike snow crystals (with or without fog)	
79	Ice pellets	

Code 9

Symbol C_m—Clouds of Types Altostratus, Altostratus, and Nimbostratus

Code Figures	Description
0	No altostratus, altostratus, or nimbostratus clouds.
1	Thin altostratus (semitransparent everywhere) through which the sun or moon would be seen dimly as through ground glass.
2	Thick altostratus, or nimbostratus.
3	Thin (semitransparent) altostratus; not changing much; at a single level.
4	Thin (semitransparent) altostratus in patches (often almond or fish-shaped); cloud elements continually changing and/or occurring at more than one level.
5	Thin (semitransparent) altostratus in bands or in a layer gradually spreading over the sky and usually thickening as a whole; it may become partly opaque or double-layered.
6	Altostratus formed by the spreading out of cumulus.
7	Any of the following cases: (a) Double-layered altostratus, usually opaque in parts, not increasing; (b) a thick (opaque) layer of altostratus, not increasing; (c) altostratus and altostratus both present at the same or different levels.
8	Altostratus in the form of cumulus-shaped tufts or altostratus with turrets.
9	Altostratus of a chaotic sky; generally at different levels; dense cirrus in patches is usually also present.

Code 10

Symbol C_c—Clouds of Types Cirrus, Cirrostratus, and Cirrocumulus

Code Figures	Description
0	No cirrus, cirrocumulus, or cirrostratus clouds.
1	Filaments or strands of cirrus, scattered and not increasing (often "Mares' tails").
2	Dense cirrus in patches or twisted sheaves usually not increasing; possibly but not certainly the remains of upper parts of cumulonimbus.
3	Cirrus, often anvil-shaped; either the remains of the upper portions of cumulonimbus or part of a distant cumulonimbus the rest of which is not visible.
4	Cirrus (often hook-shaped) gradually spreading over the sky and usually thickening as a whole.
5	Cirrus and cirrostratus, often in bands converging toward the horizon; or cirrostratus alone; in either case gradually spreading over the sky and usually thickening as a whole, but the continuous layer not reaching 45° altitude.
6	Cirrus and cirrostratus, often in bands converging toward the horizon; or cirrostratus alone; in either case gradually spreading over the sky and usually thickening as a whole, and the continuous layer exceeding 45° altitude.
7	Cirrostratus covering the whole sky.
8	Cirrostratus not increasing and not covering the whole sky; cirrus and cirrocumulus may be present.
9	Cirrocumulus alone or cirrocumulus with some cirrus or cirrostratus, but the cirrocumulus being the main cirriform cloud present.

Code 11

Symbol P_w — Period of Waves

Code Figures	Period	Code Figures	Period
2	5 seconds or less	8	15 to 17 seconds
3	5 to 7 seconds	9	17 to 19 seconds
4	7 to 9 seconds	0	19 to 21 seconds
5	9 to 11 seconds	1	Over 21 seconds
6	11 to 13 seconds	12 punch	Calm or period unable to be determined
7	13 to 15 seconds		

Code 12

Symbol H_w — Mean Maximum Height of Waves

Code Figures	Height	Code Figures	Height
0	Less than 1 foot (1/4 m.)	0	16 feet (5 m.)
1	1-1/2 feet (1/2 m.)	1	17-1/2 feet (5-1/2 m.)
2	3 feet (1 m.)	2	19 feet (6 m.)
3	5 feet (1-1/2 m.)	3	21 feet (6-1/2 m.)
4	6-1/2 feet (2 m.)	4	22-1/2 feet (7 m.)
5	8 feet (2-1/2 m.)	5	24 feet (7-1/2 m.)
6	9-1/2 feet (3 m.)	6	25-1/2 feet (8 m.)
7	11 feet (3-1/2 m.)	7	27 feet (8-1/2 m.)
8	13 feet (4 m.)	8	29 feet (9 m.)
9	14 feet (4-1/2 m.)	9	30-1/2 feet (9-1/2 m.)
"x" overpunch Cols. 50 and 52			
0	33 feet (10 m.)	5	49 feet (15 m.)
1	36 feet (11 m.)	6	52-1/2 feet (16 m.)
2	39-1/2 feet (12 m.)	7	56 feet (17 m.)
3	42-1/2 feet (13 m.)	8	59 feet (18 m.)
4	46 feet (14 m.)	9	62 feet (19 m.)

80-99—Showery precipitation, or precipitation with current or recent thunderstorm

80	Rain shower(s), slight	Thunderstorm during the preceding hour but not at time of observation
81	Rain shower(s), moderate or heavy	
82	Rain shower(s), violent	
83	Shower(s) of rain and snow mixed, slight	
84	Shower(s) of rain and snow mixed, moderate or heavy	
85	Snow shower(s), slight	
86	Snow shower(s), moderate or heavy	
87	Shower(s) of soft or small hail with or without rain or rain and snow mixed—Slight	
88	Shower(s) of soft or small hail with or without rain or rain and snow mixed—Moderate or heavy	
89	Shower(s) of hail with or without rain or rain and snow mixed, not associated with thunder—Slight	
90	Shower(s) of hail with or without rain or rain and snow mixed, not associated with thunder—Moderate or heavy	Thunderstorm at time of observation
91	Slight rain at time of observation	
92	Moderate or heavy rain at time of observation	
93	Slight snow or rain and snow mixed or hail* at time of observation	
94	Moderate or heavy snow, or rain, and snow mixed or hail* at time of observation	
95	Thunderstorm, slight or moderate, without hail* but with rain and/or snow at time of observation	
96	Thunderstorm, slight or moderate, with hail* at time of observation	
97	Thunderstorm, heavy, without hail* but with rain and/or snow at time of observation	
98	Thunderstorm combined with duststorm or sandstorm at time of observation	
99	Thunderstorm, heavy, with hail* at time of observation	

*Hail, small hail, soft hail.

Code 6

Symbol W—Past Weather

Code Figures	Description
0	Clear or scattered clouds
1	Partly cloudy or variable sky.
2	Cloudy or overcast.
3	Sandstorm or duststorm or drifting or blowing snow.
4	Fog, smoke or thick dust haze.
5	Drizzle.
6	Rain.
7	Snow or rain and snow mixed or sleet.
8	Shower(s).
9	Thunderstorm with or without precipitation.

Code 7

Symbol C_L—Clouds of Types Stratocumulus, Stratus, Cumulus, and Cumulonimbus

Code Figures	Description
0	No stratocumulus, stratus, cumulus, or cumulonimbus clouds.
1	Cumulus with little vertical development and seemingly flattened.
2	Cumulus of considerable development, generally towering, with or without other cumulus or stratocumulus; bases all at the same level.
3	Cumulonimbus with tops lacking clear-cut outlines but distinctly not cirriform or anvil-shaped; with or without cumulus, stratocumulus, or stratus.
4	Stratocumulus formed by the spreading out of cumulus; cumulus also often present.
5	Stratocumulus not formed by the spreading out of cumulus.
6	Stratus or fractostratus or both, but not fractostratus of bad weather.
7	Fractostratus and/or fractocumulus of bad weather ("scud") usually under altostratus and nimbostratus.
8	Cumulus and stratocumulus other than those formed by the spreading out of cumulus, with bases at different levels.
9	Cumulonimbus having a clearly fibrous (cirriform) top, often anvil-shaped, with or without cumulus, stratocumulus stratus or "scud."

Code 8

Symbol h—Height of Base of Cloud Above Sea

Code Figures	FEET	METERS
0	0 to 150	0 to 50
1	150 to 300	50 to 100
2	300 to 600	100 to 200
3	600 to 1000	200 to 300
4	1000 to 2000	300 to 600
5	2000 to 3000	600 to 1000
6	3000 to 5000	1000 to 1500
7	5000 to 6500	1500 to 2000
8	6500 to 8000	2000 to 2500
9	No cloud below 8000	No cloud below 2500

Code 13|

Symbol D_s—Ship's Course—Direction Toward Which Ship Is Moving

CODE FIGURES	TRUE DIRECTION	CODE FIGURES	TRUE DIRECTION
0	Ship hove to.	5	SW.
1	NE.	6	W.
2	E.	7	NW.
3	SE.	8	N.
4	S.	9	No information.

Code 14

Symbol v_s—Ship's Speed

CODE FIGURES	SPEED	CODE FIGURES	SPEED
0	Ship stopped.	5	13 to 15 knots.
1	1 to 3 knots.	6	16 to 18 knots.
2	4 to 6 knots.	7	19 to 21 knots.
3	7 to 9 knots.	8	22 to 24 knots.
4	10 to 12 knots.	9	More than 24 knots.

Code 15

Symbol a—Characteristic of Changes of Barometer in the Last 3 Hours

Code Figures	Code 49	Description	
0	Rising, then falling.	Barometer now higher than or the same as 3 hours ago	
1	Rising, then steady; or rising, then rising more slowly.		
2	Unsteady.		
3	Steady or rising.		
4	Falling or steady, then rising; or rising, then rising more quickly.	Barometer now lower than 3 hours ago	
5	Falling, then rising.		
6	Falling, then steady; or falling, then falling more slowly.		
7	Unsteady.		
8	Falling.		
9	Steady or rising, then falling; or falling, then falling more quickly.		

CODE TABLE 15

Symbol a—Barometer change characteristics in the last 3 hours

Code Figures	Code 55	Description	
0	Rising, then falling. Barometer the same or higher than 3 hours ago.	Barometer now higher than 3 hours ago	
1	Rising, then steady; or rising then rising more slowly.		
2	Rising, steadily or unsteadily.		
3	Falling or steady, then rising; or rising then rising more quickly.		
4	Steady. Barometer the same as 3 hours ago.	Barometer now lower than 3 hours ago	
5	Falling, then rising. Barometer the same or lower than 3 hours ago.		
6	Falling, then steady; or falling then falling more slowly.		
7	Falling, steadily, or unsteadily.		
8	Steady or rising, then falling; or falling, then falling more quickly.		

Symbol pp—Barometer Change

Coded in mb. and Tenths

(Amount of rise or fall of the barometer in the last 3 hours)

Code 16

Symbol ff—Wind Speed in Knots

SPEED IN KNOTS	EQUIVALENT BEAUFORT FORCE NUMBER	DESCRIPTION
0	Zero	Calm
1-3	One	Light airs
4-6	Two	Light breeze
7-10	Three	Gentle breeze
11-16	Four	Moderate breeze
17-21	Five	Fresh breeze
22-27	Six	Strong breeze
28-33	Seven	High wind (moderate gale)
34-40	Eight	Gale (fresh gale)
41-47	Nine	Strong gale
48-55	Ten	Whole gale
56-63	Eleven	Storm
64 and above	Twelve	Hurricane

Code 17|

Symbol S_{pp} — Special Phenomena

Code	Plain language specifications
00	Numbers 00-68. (The logbook contains details about):
01	No particular phenomena.
02	Tropical cyclones.
03	Gales, windforce 10 and higher, at middle and high latitude.
04	Local storms, windforce 8 and higher, as
07	Mistral, Norther, Tornado.
10	Wind- or waterspouts.
11	Arctic sea smokes.
12	Lightning with compass bearing.
13	Thunderstorm.
20	St. Elmos fire.
21	Ball-lightning.
22	Extra sea temperature observations.
23	Icebergs, or drift-ice.
24	Wrecks, drifting buoys, etc.
25	Current rips.
26	Abnormal enlargement of river water.
30	Colour of sea water according to Forel Scale.
31	Changes of sea water temperature of 5°C. or more.
32	Sunrise and sunset colours.
33	Abnormal refraction and mirage.
34	Rainbow with statement of observed colours.
35	Particular coronas with statement of observed rings.
40	Particular halos (not those of 22°).
41	Horizon-dips observations.
42	Aurora, with or without compass disturbance.
43	Compass disturbance without aurora.
50	Meteors.
51	Seisms, earth- and seaquake.
52	Particulars about birds.
53	Particulars about fishes.
54	Particulars about plankton.
55	Particulars about insects.
60	Lightning of the sea.
65	Red water.
68	Sand in the air, red fog, trade-wind dust, desert-dust.
	Dimensions of hail-stones.
	Abnormal radar reach.
	x punching in column 70 means that the logbook contains more particulars.
	x punching in column 71 means that the logbook contains an extra series of surface temperature observations.

Code 18

2°

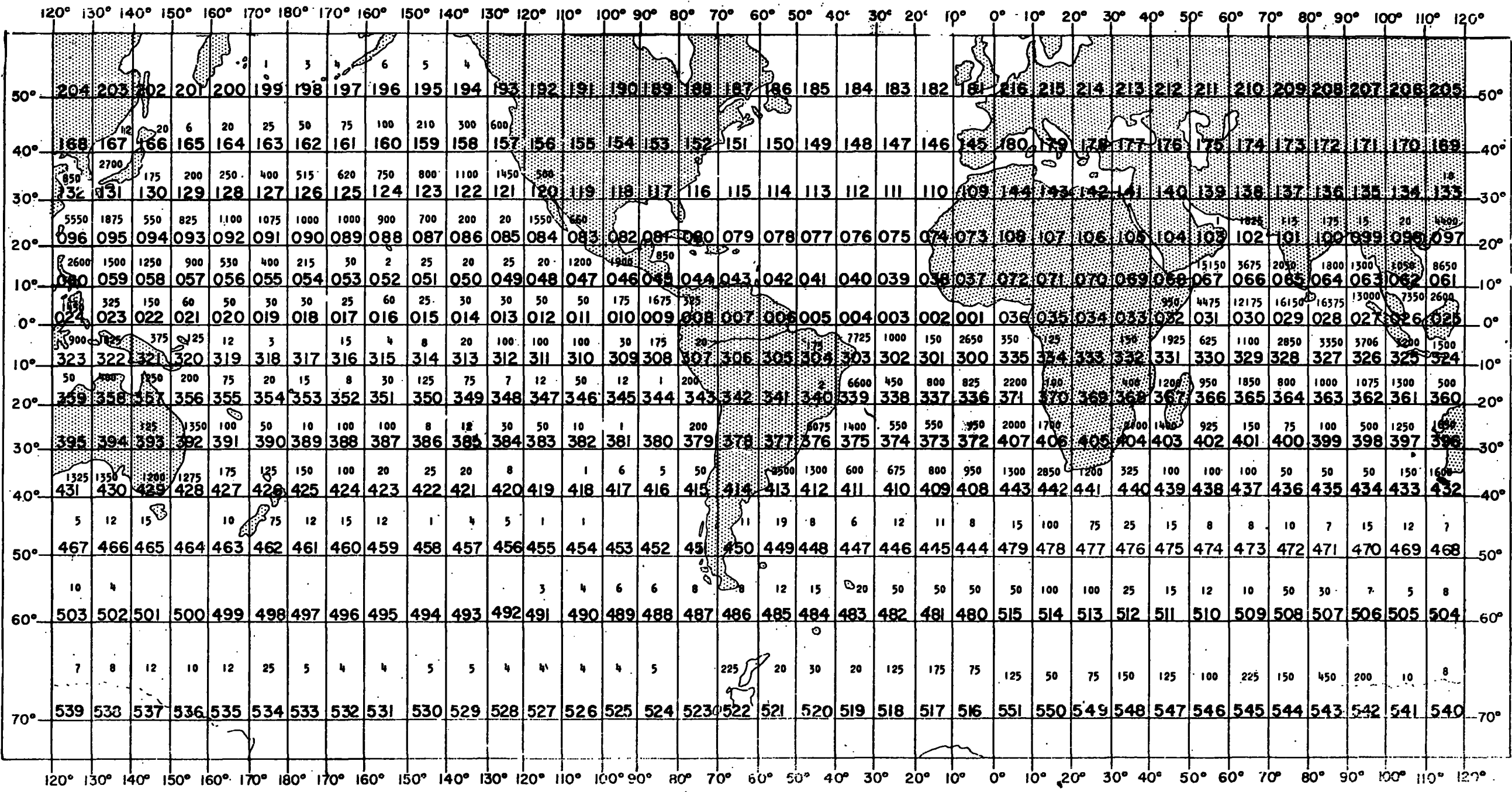
21	22	23	24	25
16	17	18	19	20
11	12	13	14	15
6	7	8	9	10
1	2	3	4	5

Code 19

5°

3	4
1	2

MARSDEN SQUARES



DUTCH MARINE OBSERVATIONS DECK 189

INVENTORY BY QLL

AS OF AUGUST, 1957

QLL	No. of Cards	QLL	No. of Cards	QLL	No. of Cards	QLL	No. of Cards
007	325	244	20	615	30	747	75
008	1,675	245	6	616	8	749	15
018	850	246	20	617	15	750	5
100	50	247	25	619	12	751	8
101	50	257	1	620	10	752	10
102	30	304	950	621	50	753	4
103	30	305	4,475	622	30	759	7
104	25	306	12,175	623	12	760	10
105	60	307	16,150	624	8	761	8
106	25	308	16,375	625	100	762	7
107	30	315	15,300	626	100	763	8
109	175	316	3,675	627	10	764	12
110	1,200	317	2,050	629	1	765	10
111	20	318	1,800	630	1	766	12
112	25	325	1	632	8	767	25
113	20	326	1,825	633	20	769	200
114	25	327	115	634	25	777	10
115	2	328	175	635	20	800	350
116	30	500	2,650	636	100	801	125
117	215	501	150	637	150	803	150
119	1,900	502	1,000	639	6	804	1,925
120	660	503	7,725	640	1	805	625
121	1,550	504	175	641	1	806	1,100
122	20	507	20	642	5	807	2,850
123	200	508	175	643	4	808	3,350
124	700	510	825	644	7	810	2,200
125	900	511	800	645	12	811	100
126	1,000	512	450	646	15	813	400
127	1,000	513	6,600	647	12	814	1,200
131	500	514	2	650	4	815	950
132	1,450	517	200	651	3	816	1,850
133	1,100	518	1	659	6	817	800
134	800	520	950	660	4	818	1,000
135	750	521	550	661	4	820	2,000
136	620	522	550	662	4	821	1,700
137	515	523	1,400	663	5	823	2,100
142	600	524	6,075	664	5	824	1,400
143	300	527	200	665	4	825	925
144	210	530	950	666	4	826	150
145	100	531	800	667	5	827	75
146	75	532	675	669	4	828	100
147	50	533	600	677	20	830	1,300
153	4	534	1,300	700	3,200	831	2,850
154	5	537	50	701	1,500	832	1,200
155	6	539	5	702	900	833	325
156	4	540	8	703	1,825	834	100
157	3	541	11	704	375	835	100
200	7,350	542	12	705	125	836	100
201	2,600	543	6	706	12	837	50
202	1,450	544	8	707	3	838	50
203	325	545	19	709	3,706	840	15
204	150	546	11	710	1,300	841	100
205	60	550	50	711	500	842	75
206	50	551	50	712	50	843	25
207	30	552	50	713	400	844	15
209	13,000	553	20	714	1,250	845	8
210	1,050	554	15	715	200	846	8
211	8,650	555	12	716	75	847	10
212	2,600	556	8	717	20	848	7
213	1,500	557	8	719	1,075	850	50
214	1,250	558	6	720	1,250	851	100
215	900	560	75	721	1,650	852	100
216	530	561	175	724	125	853	25
217	400	562	125	725	1,350	854	15
219	1,300	563	20	726	100	855	12
220	20	564	30	727	50	856	10
221	4,400	565	20	729	500	857	50
222	5,550	566	225	730	150	859	30
223	1,875	568	5	731	1,600	860	125
224	550	600	100	732	1,325	861	50
225	825	601	100	733	1,350	862	75
226	1,100	602	100	734	1,200	863	150
227	1,075	603	20	735	1,275	864	125
229	15	604	8	736	175	865	100
231	10	605	4	737	125	866	225
232	850	606	15	739	50	867	150
233	2,700	609	30	740	12	863	450
234	175	610	50	741	7		
235	200	611	12	742	5	* 535	2,500
236	250	612	7	743	12		
237	400	613	75	744	15		
243	12	614	125	746	10	TOTAL	262,945